Journal of electricity

LIBRARY OF CONGRESS AUG 3 1931

Index to Volume LXVI

January to June

1931

Electrical West

Published by McGraw-Hill Company of California
San Francisco, California

Authors' Index

TK1
.E495

Page

B

Bakewell, George, Jr. Field Results 42 Per Cent Above 1929 ..... * 94
Borden, A. O. Reducing Range Servicing Costs *253

C

Chawner, W. R. 2-Mill Commercial Heat by Reversing Refrigeration Cycle *177
Cochrane, H. H. Simplification Emphasized in Morony Design *122
Colvin, C. W. Ruskin Plant Embodies New Engineering Features *174
Crane, H. T. Tradition Broken With All-Electric Building *228
Curtis, Francis. Transmission Line Built Across 53 Others *616

D

Dalziel, Charles F. Checking Reverse Relay Connections *180
Dalziel, Charles F. Power Factor Determination *124
Drexel, H. J. Night Blooming Range Sales 32
Dudley, Ross. Who Pays for the Raised Check? *202

E

Evans, James M. Should the Code Be Specific or General? 139

F

Ferguson, H. M. Utah Company Tests Its Water Heating Practice *196
Folland, R. E. Utah League Holds Lighting School 95

Page

G

Gianini, Leo G. Bal Tabarin *600
Gianini, Leo G. Kilowatt Decoration *136
Goodale, E. C. Reactive Kva. Metering:
Part V ..... * 12
Part VI *127
Part VII *181
Part VIII (1) *233
Part VIII (2) *613

H

Hartley, Victor W. California Group Plans for the Future ..... * 95
Hudson, R. A. Lighting Scores in Seals Stadium *594
Hurlbut, W. O. Oil Seepage Causes Commutator Failures ..... * 24

K

Killen, Clair C. Simplified Job Control Record ..... * 18
Knopp, O. A. Compact Device Aids Load Testing *612

L

Leurey, Louis F. Modern Electrical Design Aids Refractory Manufacture *618

M

Macferran, Mabel. Using Hydro Plants to Boost Voltage *615
McElroy, J. P. To Save Money—Increase Pumping Efficiency 131
Mullendore, W. C. Political Sabotage *118
Myers, George L. That Question of Regulation 4

Page

N

Nightingale, F. B. If Miniature Golf Dies, What Takes Its Place? *247

P

Plankinton, J. D. Give Dealers Profit 30

R

Robertson, L. M. Fault Currents on 110-Kv. Line Checked by Service Tests *235

S

Shannon, W. D. Shuffleton Plant Emphasizes Steam in the Northwest ..... * 8
Shipek, A. Substation Expansion Typifies Economy of Designing for Future Requirements *610
Smith, Walter C. Install Non-Resonating Transformers on Coast ..... * 16
Snow, Berkeley. How Cheap is Electricity? 226

W

Walker, Dr. H. B. Concerning Farming and Utilities 121
Walter, Ralph. Automatic Control of Grain-Handling Equipment *132
Wiemer, Otto. Measuring Power Factor With Simple Instruments ..... * 28
Wiemer, Otto. Simple Power Factor Measurement *186

1 XB 326 H/33

Index to Volume LXVI

Illustrated articles are designated by an asterisk (*), editorials by a dagger (†).

(NOTE: A complete report of the fifteenth convention of the Pacific Coast Electrical Association at Del Monte, June 23-27, will be found in the July 1 issue.)

PAGES BY ISSUES

January	1-54
February	55-114
March	115-168
April	169-222
May 1	223-276
May 15	277-588
June	589-642

A

Advertising:
- Displaying Frigidity (Standard Furniture Co., Seattle), *199.
- For One—For All (Southern California Edison Co. ad.), *21.
- "Milliamperitis" Sells Radio Tubes (B. C. Electric stores), *200.
- Utility Centers Effort on Load Building in Oil Industry, *592.

After 1930—A Happy New Year, †2.
Agricultural Engineers to Meet in San Francisco, 44.
Airplane Drafting by Indirect Lighting (Boeing factory, Seattle), *23.
Airport Lighting:
- Fresno Municipal Airport, *185.

Alameda, Calif.:
- Coming Out of the Maze, *599.
- Light Department Reorganized, 626.

Alaska:
- Citizens Light, Power & Gas Company Seeks Permit at Lake Perseverance, 41.
- Davis River, Site, *63.
- 50,000-Hp. Development for Davis River, 98.
- License Granted for Portland Canal Power Co. Project, 263.
- Power Permit Granted for Paper Mill Projects, 40.

A.I.E.E.:
- August Convention at Lake Tahoe, 157.
- Completing Plans for Tahoe Convention, 628.
- 1931 Nominations, 37.
- San Francisco Section Hears Dr. Arnold, *104.
- Warning Against Racketeering, A (W. S. Lee), †116.

Ariel Project: (See Inland Power & Light Co.)
Arizona Electric League:
- Dealer Plan Tried in Glendale, 47.

Arizona Light & Power Co.:
- Dealer Plan Tried in Glendale, 47.

Arizona Loser in Hoover Dam Injunction Suit, 625.
Arizona Utilities Assn.:
- Importance of Public Relations is Emphasized at Convention, *258.

Automatic Recorder Aids Dispatching, *128.

B

Bakery Makes Its Own Climate (Cramer's Bakery, El Centro, Calif.), *26.
Ballroom Lighting:
- Bal Tabarin (San Francisco), by Leo G. Gianini, *600.
- Kilowatt Decoration, by Leo G. Gianini, *136.
- Light Gets Its Chance, †116.
- Persian Gardeners, *206.

Bal Tabarin (San Francisco), by Leo G. Gianini, *600.
Baltzelle Will Transfer to Northwest, Lee C., *635.
Barometer of Industrial Activity: *54, *114, *168.
Beetles Damage Lead-Covered Cables, *17.
Belsey Company, George:
- "Back Drop" Lighting to Sell Refrigerators, *22.

Books, New:
- Alternating Currents for Technical Students, by Calvin C. Bishop, 17.
- Arithmetic of Electricity, by T. O'Connor Sloane, 17.
- Artificial Sunlight, by M. Luckiesh, 179.
- Commercial A.C. Measurements, by G. W. Stubbings, 234.
- Electrical Distribution Engineering, by Howard P. Seelye, 17.
- Electricity, by E. E. Burns, 234.
- Experimental Electricity, by Ralph H. Walters, 234.

Books, New (continued):
- Generating Stations, by Alfred H. Lovell, 129.
- House Wiring, by Thomas W. Poppe and Harold P. Strand, 234.
- Macrae's Blue Book and Hendrick's Commercial Register, 17.
- Magneto Manual, by H. R. Langman, 129.
- Mercury Arc Power Restifiers, by Othmar K. Marti and Harold Winograd, 179.
- Modern Lighting, by Frank C. Caldwell, 179.
- Plant Location, by W. Gerald Holmes, 17.
- Pocket-Book of Electrical Rules and Tables, by Munro and Jamieson, 234.
- Short Waves, by Charles R. Leutz and Robert B. Gable, 234.
- Telephone Theory and Practice, by Kempster B. Miller, 234.

Boulder Canyon Project: (See also Colorado River and Hoover Dam.)
- Bonds to Finance Transmission Line, 208.

Brawley (Calif.) Municipal Plant Proposal Defeated at Polls, *624.
Bridge River Project: (See British Columbia Power Corp.)
Bridges:
- Variable Voltage Control Improves Operation (West Spokane St. Bridge, Seattle), *141.

B. C. Electric Railway Co., Ltd.:
- Action Moves the Red Tag Washers, *256.
- "Milliamperitis" Sells Radio Tubes, *200.
- New Unit Adds 18,000 Hp. to Jordan River Plant, 100.
- Officials at Ruskin Rites, *40.
- Ruskin Plant Embodies New Engineering Features, by C. W. Colvin, *174.
- Ruskin Power House, *67.
- Sixth Unit of Vancouver Steam Plant in Service, 99.

British Columbia Power Corp.:
- Tunnel Lining for Bridge River Project in Progress, 154.

Brown-Johnstone (Spokane) Dime Store Method of Displaying Appliances, *607.
Brown, Vernon, Electric Home of, *140.
Budgets:
- Construction Budget for 1931 is $135,624,531, 62.
- El Paso Electric Co.'s Construction Budget is $260,000, 101.
- $4,000,000 Budget Adopted by L. A. Gas and Electric Corp., 101.
- Standard Gas & Electric Announces 1931 Budget, 101.
- $240,000 is Southern Colorado Company Budget, 153.

Building Has Touched Bottom, *143.

C

California:
- Bill Attacks Utility Merchandising, 153.

California Electragists:
- Elect Officers at Long Beach Branch, 162.
- Emblem of "The Estimator," *110.
- Foss in His Own Building, George C., *47.
- Gartleys of Bakersfield, The, *110.
- Long Beach Dealers Conduct Own Cooking School, *269.
- Los Angeles Estimators Launch New Program, 162.
- Miller Co., Inc., Moves to New Store, H. L., *48.
- Northern Chapter Holds One-Day Convention at Oakland, 636.
- Southern Chapter Holds One-Day Meeting, 270.
- Southern Chapter Sets Limit to Membership, 161.
- Southern Electragists Review Situation at Los Angeles Convention, 635.

California Electric Co., Ltd.:
- Commercial and Motor Wiring Firms Merge, 270.

California Electrical Bureau:
- Reorganization Dinner, 44.

California Electrical Construction Co. Starts Radio Engineering, 636.
California Electric Works:
- Business-Getter for the Motor Dealer, *135.

California Electric Works, San Diego:
- Cracks Ice and Shoots It, *623.

California Oregon Power Co.:
- Hot Line Re-Insulation Proves Best, *129.
- May Pick California Sites for Projects on Klamath, 38.
- Moves Klamath Project to California, 263.
- Standard Gas & Electric Announces 1931 Budget, 101.
- Three California Utilities Reduce Electric Rates, 260.

California Railroad Commission:
- New Rules Issued by, 40.
- Rate Expert Engaged by, 207.
- Two Changes in Personnel, 100.

Capwell Co., Oakland, H. C.:
- Selling Leisure Sells Ironers, *609.

Carnot Cycle:
- 2-Mill Commercial Heat by Reversing Refrigeration Cycle, by W. R. Chawner, *177.

Catalina Island Casino, Lighting of, *190.
Central Arizona Light & Power Co.:
- All Consumers Benefit by Rate Cut, 262.
- Glendale Sells System to, 99.
- New Phoenix Steam Station, *72.

Coast Counties Gas & Electric Co.:
- Elects Officers, 213.
- Three California Utilities Reduce Electric Rates, 260.

Collection Policy of Paige's Electric Store, San Bernardino, Calif., 607.
Colorado:
- Utility District Bill Initiated in, 152.
- Water Shortage Places Load on Steam, 153.

Colorado River: (See also Hoover Dam.)
- Boulder Canyon Project, *67.

Columbia River:
- Engineers Engaged for Portland Power Study, 154.

Columbia River Power Company Asks 250,000-Hp. Permit, 206.
Committee on Relation of Electricity to Agriculture:
- Budgets for New Projects, 266.
- (See also Farm, Electricity on the.)
- Washington C.R.E.A. Plans Intensive Study Year, 104.

Commutator Failures, Oil Seepage Causes, by W. O. Hurlbut, *24.
Conventions:
- Chairmen Busy on P.C.E.A. Del Monte Plans, 263.
- Clip the Coupons on the P.C.E.A. Convention, †590.
- G. E. Brings Refrigerator Conventions West, 213.
- Importance of Public Relations is Emphasized at Arizona, *258.

Cooking Schools:
- Long Beach Dealers Conduct Own Cooking School, *269.
- Santa Fe Teaches Maids, 203.

Cramer's Bakery (El Centro, Calif.) Makes Its Own Climate, *26.
Cushman Project: (See Tacoma, City of.)

D

Dealer Cooperation: (See Power Company Merchandising.)
Dealers' Stores:
- Country Shop Meets City Competition, A (J. L. Mitchell, Oxnard, Calif.), *236.
- Pajaro Valley Electric Co., Watsonville, Calif., *197.
- When Beverly Hills Dealer Goes Modern, *605.

Dear Electric Co., Alhambra, Calif.:
- Ferris-ing Out More Customers, *256.

Denver Contractors Make Labor Agreement, 110.
Department Store "Dynamic" Selling (The May Co., Los Angeles), *202.
Deschutes River:
- Clyde, R. C., Gets Rights for Portland, 101.
- Engineers Engaged for Portland Power Study, 154.
- Two Cities Ask Power Sites, 38.

E

Eastern Oregon Light & Power Co.:
- Indicating Meter Guards Power Transfer, *129.

Electragists: (See also California Electragists.)
- Attend Trade Practice Conference, 216.

Electragists (continued):
Estimators (Los Angeles) Name Some Contracting Wastes, 22.
Speaks on Motor Modernization (Louis Kalisher), 161.
Trade Practice Rules Presented Commission, 269.
Utah Chapter Names Officers, 162.
Electric Appliances (miscellaneous):
Displaying Long-Handled Appliances, *201.
1931 Quotas, *77.
Electric Club of San Diego:
Elects Officers, 160.
Electric Health Appliances:
Selling Good Health (Battle Creek Health Appliance Co.), *34.
Electric Homes:
And the Upkeep is Reasonable (Home of Vernon Brown, San Marino, Calif.), *140.
Electric Ironers:
Selling Leisure Sells Ironers (H. C. Capwell Co., Oakland), *609.
Electric Lamps:
World War Veterans Sell Lamps in Denver, 154.
Electric Pumping:
Large Unit Insures Reno Water Supply, by L. O. B. Lindstrom, *620.
To Save Money—Increase Efficiency, by J. P. McElroy, 131.
Electric Ranges:
Advertised by Cooking on Street Car, *203.
Cooperation to the Core (Pacific Power & Light Co. dealer plan), 609.
Kit for Demonstrators' Utensils, *627.
Night Blooming Range Sales (presented at sales convention of Southern California Edison Co. Ltd.), by H. J. Drexel, 32.
1930 Sales, 1931 Quotas, *78.
Reducing Servicing Costs, by A. O. Borden, *253.
Electric Rates:
All Consumers Benefit by Arizona Rate Cut, 262.
California Utilities Must Reduce Rates in Agricultural District, 259.
Edison Company Lowers Valley Power Rates, 258.
Edison Company Rate Reduction Approved, 40.
Irrigationists in Accord With Utility on Rates, 37.
Lighting and Power Rates Reduced by Southern Sierras Co., 625.
Lowered Rates for Manufacturing Consumers, 154.
P. G. and E. Asks Dismissal of Modesto Protests, 96.
Rate Cut Proposed in Western Washington (Puget Sound Pwr. & Lt. Co.), 152.
Reduced on San Diego System, 260.
Regulations Should Not Invade the Field of Management, †591.
Three California Utilities Reduce Rates, 260.
Two More Cities Protest P. G. and E. Co. Rates, 41.
Electric Refrigeration:
"Back Drop" Lighting to Sell Refrigerators (Geo. Belsey Co., Los Angeles), *22.
Displaying Frigidity (Standard Furniture Co., Seattle), *199.
Million Refrigerators in 1931, A, *31.
1930 Sales, 1931 Quotas, *78.
1931 Is a Refrigeration Year, †591.
Northwest Regional Directors Named, 102.
Selling Hot Prospects Cold (P. G. and E. Co.), *608.
Sell Refrigerators to Mountain Lodges, *255.
2-Mill Commercial Heat by Reversing Refrigeration Cycle, by W. R. Chawner, *177.
Electric Washers:
Action Moves the Red Tag Washers (B. C. Electric Railway Co.), *256.
Electric Water Heaters:
Cooperation to the Core (Pacific Power & Light Co. dealer plan), 609.
1930 Sales, 1931 Quotas, *78.
Utah Company Tests Its Water Heating Practice, by H. M. Ferguson, *196.
Electric Wiring:
Thin-Wall Conduit Under Field Test, *195.
Electrical League of Colorado:
Field Results 42 Per Cent Above 1929, by George Bakewell, Jr., *94.
Holds Statewide Conference, 266.
Electrical League of Utah:
Brightens Lighting Market, *602.
Holds Lighting School, by R. E. Folland, 95.
Successful Meeting Held by, 630.
Wolfrom Heads, C. A., 44.
Electrical Leagues:
What of the Leagues?, *93.
Electrical Leagues, What Price?, †58.
Electrical Service League of B. C.:
Surveys Prove Its Worth, *93.
Electrical West, Genealogy of, 37.
El Paso Electric Co.:
Advertise Ranges by Cooking on Street Car, *203.
Construction Budget is $260,000, 101.
El Paso Electric Co., Colorado Springs, Colo.:
Former Church Is Firm's Home, *200.
Enterprise Electric Works, San Francisco:
Geared Up to Present-Day Conditions, *238.

F

Farm, Electricity on the: (See also Committee on the Relation of Electricity to Agriculture).
Concerning Farming and Utilities, by Dr. H. B. Walker, 121.
Idaho College Gives Farm Electrification Course, 213.
Picking Men for Agricultural Sales, †225.
Federal Power Commission:
Firmly Seated, King Reinstated, 97.
Water Power Control Shown to be State Function, 39.
Ferris-ing Out More Customers (Dear Electric Co., Alhambra, Calif.), *256.
Fisher Flouring Mills Co.: (See Flour Mills.)
Floodlighting: (See also Lighting.)
Catalina Island Casino, *190.
Highest Lighting Load at San Francisco Ball Park, 152.
If Miniature Golf Dies, What Takes Its Place?, by F. B. Nightingale, *247.
Light Adds Beauty to Chapel, *99.
Portland Service Station, *21.
Steps to Airport Lighting (Fresno Airport), *185.
Flour Mills:
Automatic Control of Grain-Handling Equipment, by Ralph Walter, *132.

G

G and L Electric Co., Beverly Hills, Calif.:
When Beverly Hills Dealer Goes Modern, *605.
Gas Rates, Injunction Halts Lowering of Los Angeles, 97.
General Electric Co.:
Refrigerator Conventions in March, 160.
General Electric Supply Corp.:
Seattle Store Organized to Speed Orders, *198.
Glendale, Ariz., Sells System to Power Company, 99.
Grain-Handling Equipment, Automatic Control of, by Ralph Walter, *132.
Grand Junction, Colo., New Hydro Plant for, 155.
Great Northern Power Co.:
Has Operating Permit, 208.

H

Health Appliances: (See Electric Health Appliances.)
Hoover Dam: (See also Colorado River.)
Arizona Loser in Injunction Suit, 625.
Arizona Suit Hearings Terminated, 206.
Government Invites Bids for Construction, 37.
Power Line Ready This Month, 625.
Railroad Descending Slope to Dam Site, *262.
Six Companies, Inc., Bid Low on, 205.
To Carry Power to Dam Site, *259.
How Cheap is Electricity?, by Berkeley Snow, 226.
Hutchinson, Cooperation Award Made to Charles T., *36.
Hutchinson, The New Electrical Bureau a Monument to C. T., †2.
Hydro-Electric Development:
Additions to Generating Stations 1930-31, 68.
Columbia River Power Company Asks 250,000-Hp. Permit, 206.
50,000 Hp. for Davis River, Alaska, 98.
May Pick California Sites for Projects on Klamath River, 38.
Merced Falls Outdoor Hydro Plant First in California, *15.
New Hydro Plant for Grand Junction, Colo., 155.
New Unit Adds 18,000 Hp. to Jordan River Plant, 100.
Power Permits Granted for Alaska Paper Mill Projects, 40.
Records Broken by 1930 Power Installations, *67.
Ruskin Plant Embodies New Engineering Features, by C. W. Colvin, *174.
Tacoma Ready to Study Skokomish River, 627.
Tunnel Contract Let for Oak Grove Project, 627.
Tuolumne Rights Sought for Groveland Project, 40.
Hydro-Electric Development (continued):
Two Cities Ask Deschutes River Power Sites, 38.
Using Hydro Plants to Boost Voltage, by Mabel Macferran, *615.
Water Power Control Shown to Be a State Function, 39.

I

Ice Loading System for American Fisheries Co., *623.
Idaho:
College of Agriculture Gives Farm Electrification Course, 213.
Tax Placed on Energy Generated in, 206.
Initiative, This Is the Time to Reward, †2.
Inland Power & Light Co.:
Ariel Dam Nears Completion, *63.
110-Kv. Submarine Cable to Bring Power to Portland, 39.
International Association of Electrical Inspectors:
Manahan Named President of Association, R. H., *269.
Mountain Inspectors Form Chapter, 636.
New Charter Helps San Francisco Chief, 270.
Northwest Inspectors Appoint Committees, 47.
Southwest Inspectors' Committees Named, 109.
International Electric and Machinery Co.:
Where Is the Blacksmith Now?, *621.

J

Jarvis Electric Company (Vancouver, B. C.):
Specializing Builds Appliance Business, *33.
Job Control Record, Simplified, by Clair C. Killen, *18.
Jordan River Plant: (See B. C. Electric Railway Co., Ltd.)

K

Kalisher Speaks on Motor Modernization, Louis, 161.
Kerckhoff, Students' Hall Commemorates Work of, W. G., *100.
Kerosene Treating Plant Utilizes Electricity, *130.
Klamath River:
Copco Moves Project to California, 263.
May Pick California Sites for Projects on, 38.

L

Lamps: (See Electric Lamps.)
League of California Municipalities:
Committee to Aid Utility Regulation in California, 153.
Legal Problems:
When May Delivery Be Refused?, *606.
Who Pays for the Raised Check?, by Ross Dudley, *202.
Let Us Seek This Goal, †117.
Lighting: (See also Floodlighting, Street Lighting, Ballroom Lighting.)
Electricity Lights Better Than Sun (Used Car Dealer), *189.
Not a Shadow in the Show Room (Lindner Packing Co., Denver), *255.
Southern Pacific Diners, *187.
Specializing in the Spectacular (Pineau & Howse theater lighting), *188.
Utah League Brightens Market, *602.
Lighting Fixtures:
Number Fixtures and Increase Sales, *149.
Lindner Packing Co.:
Not a Shadow in the Show Room, *255.
Lindstrom, L. O. B.:
Large Pumping Unit Insures Reno Water Supply, *620.
Load Testing, Compact Device Aids, by O. A. Knopp, *612.
Long-Handled Appliances, Displaying, *201.
Los Angeles, City of:
Will Not Vote on Power Bonds, *625.
Los Angeles Department of Water and Power:
Budget Passed, 626.
Employees Reinstated, 261.
Joint Divisions Under One Head, 38.
Water and Power Bureaus Merged, *96.
Los Angeles Electric Club:
Holds Successful Golf Tournament, *632.
L. A. Gas and Electric Corp.:
Denied Rate Rehearing, 39.
Double-Decking Solves Distribution Problem, 128.
$4,000,000 Budget Adopted by, 101.
Gross Earnings Up, 208.
Injunction Halts Lowering of Gas Rates, 97.

L. A. Electric Club (continued):
More Convenience Outlets (advertisement), *155.
New District Office in Los Angeles Suburb, *207.
Upheld in Use of Streets for Power Lines, 151.

M

May Co., The (Los Angeles):
Department Store "Dynamic" Selling, *202.
McGraw Awards, James H.:
Cooperation Award Made to Charles T. Hutchinson, *36.
McGraw Awards for Electrical Men, 627.
McGraw-Hill "Platform for American Business":
Long Term Commercial Planning Is Needed, †171.
McGraw-Hill Publishing Co., Inc.:
New Home of (New York), *154.
Mactolf-Doll Electric Co. Golf Blotters, *607.
Majestic Products, Inc., Phoenix:
"Let the Dealer Make the Deal," 254.
Merced Falls Plant: (See San Joaquin Light & Power Corp.)
Meters and Metering:
Indicating Meter Guards Power Transfer, *129.
Reactive Kva. Metering, by E. C. Goodale.
Part V, *12.
Part VI, *127.
Part VII, *181.
Part VIII (1), *233.
Part VIII (2), *613.
Midland Counties Public Service Corp.:
Must Reduce Rates in Agricultural District, 259.
San Joaquin Light & Power to Take Over, 152.
To Transfer Properties on June 30, 208.
Mitchell, J. L., Oxnard, Calif.:
Country Shop Meets City Competition, A, *236.
Modernize, Now It's, 184.
Montana Power Co.: (See also Rocky Mountain Power Co.)
Morony Dam and Power House, *68.
Simplification Emphasized in Morony Design, by H. H. Cochrane, *122.
Morony Development: (See Montana Power Co.)
Motors and Motor Shops:
Business-Getter for the Motor Dealer (California Electric Works' Card), *135.
Country Shop Meets City Competition, A (J. L. Mitchell, Oxnard, Calif.), *236.
Draining Varnish (Norton & Norton, Los Angeles), *29.
Geared Up to Present-Day Conditions (Enterprise Electric Works, San Francisco), *238.
Kalisher Speaks on Modernization, Louis, 161.
Making Heavy Coils Yield, *25.
Motor Firm Stages Equipment Show (Pacific Electric Motor Co., Oakland), 216.
Now It's Modernize, 184.
Oil Seepage Causes Commutator Failures, by W. O. Hurlbut, *24.
Pacific Electric Motor Co. Show Draws Crowds, *270.
Where Is the Blacksmith Now? (International Electric and Machinery Co., Los Angeles), *621.
Winds Coils of Any Size or Shape (Buzzell Electric Works), *187.
Mountain States Power Co.:
Marshfield (Ore.) Steam Plant, *65.
Moving Heavy Merchandise (electric exhibitor), *201.

N

N.E.L.A.:
1931 Prize Terms Announced, 99.
Problems of the Day Will Be Convention Topics, 628.
Rocky Mountain Division—
Agrees on Good-will Advertising, 103.
Western Winners Chosen in Speaking Contest, *629.
National Electrical Code:
Must the Code Be Specific? (letter of Alexander Maxwell), 598.
Should the Code Be Specific or General?, by James M. Evans, 139.
National Electrical Wholesalers Assn.:
Interesting Announcement at Open Meeting, 44.
Two Eminent Speakers on Jobbers' Program, 632.
National Electrical Wholesalers Assn., Pacific Division:
Utility Programs Reviewed at Jobbers' Meeting, 160.
Natural Gas:
Company Formed to Bring Gas to Los Angeles, 100.
Neon:
Standard Oil Co. (Los Angeles) Olympic Games Invitation, *210.
Nevada-California Electric Corp.:
Profits Increase, 208.
Nevada Senate, Merchandising Bill Killed in, 207.
New Mexico Power Co., Santa Fe:
Cooking School "Maid's Day", 203.
Northwest Electric Light and Power Assn.:
Acounting Work Vital to Present Problems, 629.
Commercial Section Committees Report at Spring Conclave, 211.
Engineering Section Reports Summarized, 264.
Engineers' Program of Lively Interest, 156.
Inter-company Speaking Contest Is Announced, 156.
Interesting Reports Mark Engineering Meeting, 210.
No Convention in the Northwest This Year, †224.
Plans for Commercial Meeting Under Way, 157.
Refrigeration Campaign Regional Directors Named, 102.
This Year's General Convention Canceled, 264.
Underground and Submarine Cables to Be Discussed, 102.
Will Hold Local Speaking Contest Only, 102.
Northwest Power Co.-Salem Rights Case Nearing End, 37.
Northwestern Electric Co.: (See Inland Power & Light Co.)
Special Construction Increases Truck Pay-load, *14.

O

Oak Grove Plant: (See Portland General Electric Co.)
Oil Field Loan, Unify Regulations for, †590.
Oil Industry:
Utility Centers Advertising Effort on Load Building in Single Industry, *592.
Oil Seepage Causes Commutator Failures, by W. O. Hurlbut, *24.
Okanogan Valley Irrigationists in Accord With Utility on Rates, 37.
Olesen Co., Hollywood, Calif., Otto K.:
Repairing the Dull Seasons, 606.
Oregon:
A One-Man Commission, †171.
Bill Would Disqualify Incompetent Engineers, 206.
Governor's Message Significant on Power, 96.
Governor's Power Program Finds Support in Recent Legislation, 204.
Power Program of Governor Finds Expression in Ten Bills, 150.
State College Home Economics Course Well Attended, 213.

P

Pacific Coast Electrical Assn.:
Clip the Coupons on the Convention, †590.
Commercial Section Winds Up Activity, 263.
Dates Set for Public Speaking Tryouts, 156.
Del Monte Convention Program Outlined, 628.
Engineering Section Meets in Fresno, 209.
Engineering Section Program Announced, 156.
Engineers Have Successful Meeting at Los Angeles, 42.
Official Action Taken on Radio Interference, 33.
Program of Commercial Section Announced, 102.
Purchasing-Stores Section Holds Quarterly Meeting, 42.
State Semi-Finals Held in Speaking Contest, 263.
Transportation Section Meets in Los Angeles, 42.
Unify Regulations for Oil Field Load, †590.
Wiring Concerns Commercial Men (Los Angeles meeting), 155.
Convention Chairmen Busy on Del Monte Plans, 263.
Pacific Coast Electrical Bureau:
Activities Set Forth at Meeting in Los Angeles, 631.
Bureau Reorganized to Create New Business, *5.
California Announces Some Merchandising Principles, †170.
California Group Plans for the Future, by Victor W. Hartley, *95.
Electrical Bureau and P. G. and E. Sales Are San Francisco Meeting Subjects, 103.
Establishing the Fair Merchandising Policy, 172.
New Electrical Bureau—A Monument to C. T. Hutchinson, The, †2.
Pacific Electric Motor Co., Oakland:
Motor Show Draws Crowds, *270.
Stages Equipment Show, 216.
Pacific Gas and Electric Co.:
Asks Dismissal of Hat Creek Injunction, 206.
Asks Dismissal of Modesto Rate Protests, 96.
Barnstorming for Business (traveling show), *144.
Coast Gets Its First 60-Kv. Underground Cable, *183.
Common Stock Offered to Present Stockholders, 101.
Compact Device Aids Load Testing, by O. A. Knopp, *612.
Electrical Bureau and P. G. and E. Sales Are San Francisco Meeting Subjects, 103.
Farmer Absolved From Dynamiting Dam, 152.
Station "A" Steam Plant, *65.
Mokelumne Project, *66.
Salt Springs Dam and Power House, *66.
Salt Springs Dam Looks Like Christmas at Night, *260.
Selling a Sales Plan, 256.
Selling Hot Prospects Cold (national refrigeration campaign), *608.
Seventy Dine in Smokestack Flue, *39.
66-Kv. Cable at Newark Sub First in the West, 151.
Salt Springs Dam's Rock Fill Section Widens, *98.
Two More Cities Protest Rates, 41.
Pacific Lighting Corp.:
Earns $4.59 Per Share, 208.
Pacific Northwest Public Service Co.: (See also Portland General Electric Co.)
Griffith Re-elected President of Pepco, F. T., 266.
Wages Cut by, 627.
Ambassadors of Public Relations, †117.
Cooperation to the Core (financing of range and water heater dealer contracts), 609.
More Use—Less Cost, *147.
Northwest Engineers on Inspection Trip, *43.
Plane Used to Reach Line Break in Snow Area, 155.
Speakers at Sales Meeting, *150.
Paige's Electric Store (San Bernardino, Calif.) Collection Policy, 607.
Pajaro Valley Electric Co.:
Dealer Starts New Spanish Custom, *197.
Paraffine Treatment Clears Oil Soaked Equipment, 135.
Pelton Water Wheel Co.:
Loyalty Emblems Reward Employees, *104.
Pineau & Howse Electric Co.:
Specializing in the Spectacular, *188.
Plants Grown With Open Wire Heat, *622.
Platform for American Business, A, †116.
Platform of Policies for American Business (Supplement to March 1 issue.)
Playing Fields, Floodlighting of:
Highest Lighting Load at San Francisco Ball Park, 152.
If Miniature Golf Dies, What Takes Its Place?, by F. B. Nightingale, *247.
Lighting Scores in Seals Stadium, by R. A. Hudson, *594.
Political Sabotage, by W. C. Mullendore, *118.
Portland Canal Power Co.:
50,000-Hp. Development for Davis River, Alaska, 98.
Davis River (Alaska) Site, *63.
License Granted for Alaska Project, 263.
Portland, City of:
Clyde, R. C., Gets Deschutes River Rights for, 101.
Council Favors Municipal Power System, 98.
Engineers Engaged for Power Study, 154.
Portland Electric Club Elects Officers, 631
Portland General Electric Co.:
Latest Addition to Station "L," *72.
Second Unit of Oak Grove Plant in Operation, *151.
Tunnel Contract Let for Oak Grove Project, 627.
Power Company Merchandising:
Barnstorming for Business (P. G. and E. Co.), *144.
Bill Killed in Nevada Senate, 207.
California Announces Some Merchandising Principles, †170.
California Bill Attacks Utility Merchandising, 153.
California Bill Killed in Committee, 259.
Edison and Dealers Launch Sales Test, 257.
Establishing a Fair Merchandising Policy, 172.
Give Dealers Profit, by J. C. Plankinton, 30.
More Use—Less Cost (Pacific Pwr. & Lt. Co.), *147.

Power Company Merchandising (continued):
"Not What We Have Done—But How Large Is Our Future Opportunity?", *78.
Reducing It to Something Simple, †59.
Selling a Sales Plan (P. G. and E. Co.), 256.
Tacoma to Continue Appliance Selling, 624.
"To Be or Not to Be," †590.
Power Factor:
Checking Reverse Relay Connections, by Charles F. Dalziel, *180.
Determination, by Charles F. Dalziel, *124.
Measuring Power Factor With Simple Instruments, by Otto Wiemer, *28.
Simple Measurement, by Otto Wiemer, *186.
Public Ownership:
Brawley (Calif.) Municipal Plant Proposal Defeated at Polls, *624.
Engineers Engaged for Portland Power Study, 154.
League Formed to Defend Municipal Power System (Los Angeles), 39.
Measure Passed in New Mexico, 625.
Portland Council Favors Municipal Power System, 98.
Secretary Visits West, 40.
Tacoma Dealers Protest Municipality Selling, 270.
Utility District Bill Initiated in Colorado, 152.
Public Relations, Ambassadors of, †117.
Public Relations Problems, Another Viewpoint on the, †3.
Public Service Co. of Colorado:
Displaying Long-Handled Appliances, *201.
Fault Currents on 110-Kv. Line Checked by Service Tests, by L. M. Robertson, *235.
Giant Transformers Going Into Denver Sub, *41.
World War Veterans Sell Lamps in Denver, 154.
Puget Sound Power & Light Co.: (See also Washington Electric Co.)
$5,000,000 in New Capital for Puget Sound Projects, 41.
New Operating Set-up Announced by President, *261.
Ordinance Proposes Purchase of System by City, 260.
Organization Change, 624.
Rate Cut Proposed in Western Washington, 152.
Safety Door for Push Button Switches (Shuffleton Steam Plant), *183.
Shuffleton Plant Emphasizes Steam in the Northwest, by W. D. Shannon, *8.
Substation Expansion Typifies Economy of Designing for Future Requirements, by A. Shipek, *610.
Three-reel Talkie Being Shown, 40.

R

Radio:
California Electrical Construction Co. Inaugurates Department, 636.
"Milliamperitis" Sells Radio Tubes (B. C. Electric stores), *200.
To Build Public Relations, †225.
Radio Interference:
And Merchandising, †170.
California Association Meets in San Francisco, 632.
Official Action Taken on, 33.
Reactive Kva. Metering. (See Meters and Metering.)
Red Seal:
Riverside Trade School Class Wires Home, *48.
Refractory Manufacture, Modern Electrical Design Aids, by Louis F. Leurey, *618.
Regulation of Trade Practices, †170.
Regulation, That Question of, by George L. Myers, 4.
Reno Water Supply, Large Pumping Unit Insures, by L. O. B. Lindstrom, *620.
Repairing the Dull Seasons (Otto K. Olesen Co., Hollywood, Calif.), 606.
Repair Tag, What's in a (Werry Electric Shop, Palo Alto, Calif.), 199.
Rocky Mountain Power Co.:
Flathead River Power Site, *265.
Rock Island Project: (See Washington Electric Co.)
Ruskin Plant: (See B. C. Electric Railway Co., Ltd.)

S

Safety:
Safety Door for Push Button Switches, *183.
Why 110 Volts Is Often Fatal, 21.
St. Vincent's Chapel, San Rafael:
Light Adds Beauty to, *99.
Salt River Valley Water Users' Assn.:
Stewart Mountain Dam, *64.
Sanborn & Company, Ltd., C. A., New Name of Holmes & Sanborn, Ltd., 154.
San Diego Consolidated Gas & Electric Co.:
Rates Are Reduced, 260.
Standard Gas & Electric Announces 1931 Budget, 101.
San Francisco Charter Creates Utilities Body, 261.
San Francisco Electrical Development League:
Has New President, *213.
San Joaquin Light & Power Corp.:
Ashlan-Wilson Transmission Line, *74.
Centers Advertising Effort on Load Building in Oil Industry, *592.
Merced Falls Outdoor Hydro Plant First in California, *15.
Must Reduce Rates in Agricultural District, 259.
Regulations Should Not Invade the Field of Management, †591.
San Joaquin Valley Ranchers Bring Suit, 260.
To Save Money—Increase Pumping Efficiency, by J. P. McElroy, 131.
To Take Over Midland Counties Corp., 152.
San Joaquin Valley Ranchers Bring Suit Against Edison and San Joaquin Cos., 260.
Scott's Electric Shop, Yuba City, Calif., *161.
Seals Stadium, Lighting Scores in, by R. A. Hudson, *594.
Seattle City Light Dept.:
Council Bars Vote on Engineering Authority, 97.
Ross Dismissed by Mayor, J. D., *205.
Successor to J. D. Ross Agreed on, *634.
Under Public Works Board, 262.
Seattle, City of:
Skagit Project—
Diablo Dam, *64.
90,000 Acre-ft. of Water, *212.
Seattle Settles Claim of Diablo Dam Contractors, 261.
230-Kv. Line to Bring Power From Diablo to Seattle, 100.
Variable Voltage Control Improves Bridge Operation, *141.
Service Station, Floodlighting a Portland, *21.
Shuffleton Steam Plant: (See Puget Sound Power & Light Co.)
Sierra Pacific Power Co.:
Large Pumping Unit Insures Reno Water Supply, by L. O. B. Lindstrom, *620.
Sine Wave of Building, The, †58.
Skagit Project: (See Seattle, City of.)
Soldering Iron Is Useful, Arc, *135.
South East Electric Co.:
Elects Officers, 160.
Southern California Edison Co. Ltd.:
Earns $3.25 on Common in 1930, 208.
Edison and Dealers Launch Sales Test, 257.
Edison Building a Laboratory, †224.
Edison Building Features New Construction Methods, *240.
Edison Building Is Sales Laboratory, *250.
For One—For All (advertisement), *21.
Kit for Range Demonstrators' Utensils, *627.
Long Beach Dealers Conduct Own Cooking School, *269.
Long Beach Steam Plant—
Stone & Webster to Build Long Beach Twelve, 207.
Lowered Rates for Manufacturing Consumers, 154.
Lowers Valley Power Rates, 258.
Moves Into New Building, *153.
Multi-circuit Steel Tower Construction, *73.
Open Wire Heat Helps Plants Grow, *622.
Outdoor Condenser Installed at San Antonio Substation, *38.
Places 4,000-Ton Steel Order, 207.
Rate Reduction Approved, 40.
Revises Line Extension Rules, 38.
San Joaquin Valley Ranchers Bring Suit, 260.
Stockholders to Receive Common Rights, 101.
To Issue $5,000,000 of 4½% Bonds, 41.
Tradition Broken With All-Electric Building, by H. T. Crane, *228.
Southern Colorado Power Co.:
$240,000 Is Southern Colorado Company Budget, 153.
Southern Oregon Electric Co.:
Sell Refrigerators to Mountain Lodges, *255.
Southern Pacific Company Diners, Lighting of, *187.
Southern Sierras Power Co.:
Hoover Dam Power Line Ready This Month, 625.
Lighting and Power Rates Reduced by, 625.
Three California Utilities Reduce Electric Rates, 260.
Transmission Line Built Across 53 Others, by Francis Curtis, *616.
Statistics, The Value of, †58.
Steam Plant Development:
Additions to Steam-electric Generating Stations 1930-31, 70.
Colorado Water Shortage Places Load on Steam, 153.
Latest Addition to Station "L" (Portland General Electric Co.), *72.
Marshfield (Ore.) Plant of Mountain States Power Co., *65.
New Phoenix Steam Station (Central Arizona Lt. & Pwr. Co.), *72.
P. G. and E. Co. Station "A," *65.
Program of 1931 Continues Trend to Steam Plants, *70.
Safety Door for Push Button Switches (Shuffleton), *183.
Shuffleton Plant Emphasizes Steam in the Northwest, by W. D. Shannon, *8.
Sixth Unit of Vancouver Plant in Service, 99.
Stockton Fire Brick Co.:
Modern Electrical Design Aids Refractory Manufacture, by Louis F. Leurey, *618.
Store Lighting: (See Lighting.)
Street Lighting:
Coming Out of the Maze (Alameda, Calif.), *599.
Substations:
Expansion Typifies Economy of Designing for Future Requirements, by A. Shipek (Puget Sound Power & Light Co.), *610.
Giant Transformers Going Into Denver Sub, *41.
Outdoor Condenser Installed at San Antonio, *38.
Sweet's Persian Gardens, Oakland: (See Ballroom Lighting.)
Swope Optimistic About 1931 Business, Gerard, 98.

T

Tacoma, City of:
Cushman No. 2, *63.
Dealers Protest Municipality Selling, 270.
First Unit in Service at Cushman No. 2 Plant, *152.
Ready to Study Skokomish River, 627.
To Continue Appliance Selling, 624.
Teamwork, A Year for, †59.
Theater Lighting (See Lighting.)
Thin-Wall Conduit Under Field Test, *195.
Transformers:
Compact Device Aids Load Testing, by O. A. Knopp, *612.
Install Non-Resonating Transformers on Coast, by Walter C. Smith, *16.
Transmission and Distribution:
Additions to Transmission Line Construction 1930-31, 74.
Coast Gets Its First 60-Kv. Underground Cable, *183.
Double-Decking Solves Distribution Problem, 128.
Fault Currents on 110-Kv. Line Checked by Service Tests, by L. M. Robertson, *235.
Hoover Dam Power Line Ready This Month, 625.
Hot Line Re-Insulation Proves Best, *129.
Line Built Across 53 Others (Southern Sierras Power Co.), by Francis Curtis, *616.
Plane Used to Reach Line Break in Snow Area, 155.
Substation Expansion Typifies Economy of Designing for Future Requirements (Puget Sound Power & Light Co.), by A. Shipek, *610.
To Carry Power to Dam Site, *259.
Trend Is Toward Transmission at Higher Voltages, *73.
Trucks:
Special Construction Increases Truck Pay-Load, *14.
Turlock and Modesto Irrigation Districts:
Tuolumne Rights Sought for Groveland Project, 40.
Turnbull Honored at Farewell Luncheon, Ray W., 103.

U

Union Oil Co.:
Kerosene Treating Plant Utilizes Electricity, *130.
University of California:
Students' Hall Commemorates Work of W. G. Kerckhoff, *100.
Utah Electrical League: (See Electrical League of Utah.)
Utah Light & Traction Co.:
Automatic Recorder Aids Dispatching *128.
Utah Power & Light Co.:
Fisherman With a Good Line, *40.
Still Plenty of Business, *101.
Tests Its Water Heating Practice, by H. M. Ferguson, *196.

W

Wages Cut by Pepco, 627.
Washington:
"Power District" Meeting Held in Spokane County, 262.
Washington Electric Co.:
Restraining Order Lifted From Rock Island Dam, 154.
Rock Island Power House, *64.
Rock Island Site Scene of Much Activity, *97.
View Rock Island Progress, *156.
Washington Water Power Co.:
Irrigationists in Accord With on Rates, 37.
Leaders Memorialized, *626.
Public Speaking Contest Winner, 264.
Water Shortage:
Far West Faces Serious Shortage in 1931, 227.
More Serious in California, 626.
Places Load on Steam in Colorado, 153.
Werry Electric Shop, Alfred E. (Palo Alto, Calif.);
What's in a Tag?, 199.
Westinghouse Company Elects Officials, 631.
West Progresses Electrically During 1930, 60.
Western Metal Congress:
Furnaces, Welders on Show at Machinery Exposition, 104.
Plans Under Way for Congress and Exposition, 44.
Wiring: (See Electric Wiring.)
Woodhead Electric Co., Roswell, N. M., *149.
Wuelker Reflector-Lighting Corp. Stock Offered, 208.

Personal

A

Airey, Frank J., *159; Allen, Claxton E., 46; Arnold, Dr. H. D., 46.

B

Backus, Rex A., 633; Baker, Clark, Sr., *633; Ballard, R. H., *633; Barker, Guy A., *105; Barnes, Hobart, *109; Bear, William P. ("Teddy"), 634; Beebe, J. L., 267; Best, W. E., *158; Blackburn, L. A., 158; Bourke, L. J., *214; Brockett, N. W., 267; Brown, A. D., 158.

C

Cain, Milo, 106; Cargo, L. M. ("Larry"), *106; Carrothers, George, 633; Chitty, A. M., 214, *268; Clay, John Allen, 46; Collins, John, Jr., *45; Cone, J. D., 46; Cordiner, Ralph J., 45, *105; Corrin, J. G., 106; Crites, Orr E., *214; Cunningham, C. E., 46.

D

Dalton, R. C., 159; Draper, Claude L., 46; Duncan, Lee R., *159; Dwyer, J. C., 268.

F

Fawell, Thomas A., 46; Felt, V. P., 268; Fischer, Will H., *105; Foster, W. R., 268; Frost, A. M., 215.

G

Gannon, F. J., *267; Gardner, G. M., 214; Garsaud, Colonel Marcel, 46; Gates, S. E., 215; Getchman, B. A., 215; Gray, Tom, 268; Griswold, A. E., 268.

H

Haynes, Dr. John R., 215; Holcomb, W. H., *215; Holsey, T. E., 159; Hoxie, Harvey H., 106; Hume, Fred J., 159; Hunner, Ralph, 159; Hurd, Clinton T., 105; Hyatt, Edward, 46.

J

Jantzen, J. W., 158; Johnson, Lloyd, 267.

K

Kalisher, Louis, *109; Karrer, L. E., 214; Kaufman, Nathan, 634; Kennedy, P. J., 633; Kerrick, L. J., 215; Kirchhaine, C. F., 158.

L

Lapp, John S., 106; Larsen, S. P. ("Si"), *105; Lenhart, H. Hugh, 268; Lenz, J. M., 158; Leonard, A. W., *214, 268; Leonard, H. C., *159; Lester, Claude R., 268; Linsley, G. H., Jr., 46; Luckenbach, Paul, 106.

M

McDonald, C. M., 268; McElroy, R. B., 215; McGrath, W. H., 268; McLaughlin, J. F., *267; McNinch, Frank, 46; Maxwell, R. M., *267; Merilees, Harold J., 268; Miller, G. C., 45; Mitchell, Jesse J., 268; Moon, V. H., *158; Morrison, R. O., 159; Morse, W. Chester, *634; Murphy, J. R. ("Pat"), 106; Murphy, M. J., 105.

P

Peterson, Ralph B., *108; Platt, J. C., 45; Pontius, D. W., 46; Proebstel, D. W., *158.

R

Reed, Lloyd B., 159.

S

Sands, H. S., 267; Saunders, Rome C., *268; Shannon, W. D., 158, 267; Shreve, E. O., 158; Slocum, R. H., 633; Smith, Dr. George Otis, 46; Smith, M. C., *633; Smith, Richard E., 268; Stockbridge, George H., *214; Strasburger, Arthur, 215; Strong, A. E., 46.

T

Tassie, B. M., *105, 158; Tompkins, H. B., 158; Turnbull, Ray W., *45.

V

Van Norman, H. A., *96; Volger, R. J., 215; Vosmer, L. A., 45.

W

Webber, Claude H., *634; Wilkins, Roy, 106; Williamson, Frank B., 46; Wilson, Harley P., 46; Wiseman, Dr. Robert J., 268; Wishon, A. Emory, 633; Wolfrom, Carl A., *45; Wood, Thomas S., 159; Worswick, Samuel H., 46.

Y

Yorath, C. J., 159.

Obituary

Arnold, George L., 46.

Burnes, Herbert, 159; Burns, J. W., 159.

Childs, A. W., *215; Cody, Lawrence W., 268; Coulter, Charles H., 106; Curtis, Augustus D., 634.

Day, Charles E., 268; Dibble, Harry E., 106.

Frazer, W. W., 106

Gilmore, Thomas Scott, 159; Greisberg, Fred, 268.

Hickman, C. E., 46; Hoadley, P. L., 268; Hunt, Andrew Murray, 46; Moser, Walter Alfred, 634.
Peck, William Ottway, Jr., 106.

Reid, Robert T., 634; Roe, George E., *634.

Stannard, J. L., *215.